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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/813,826	03/22/2001	Shunji Hyoda	SPO-592	3082

7590 04/04/2005

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EXAMINER	
COPPINS, JANET L	

ART UNIT	PAPER NUMBER
1626	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/813,826	HYODA ET AL.	
	Examiner	Art Unit	
	Janet L. Coppins	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 14-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 14-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-9 and 14-17 are pending in the instant application.

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on March 24, 2000. It is noted, however, that applicant has not filed a translation of said papers in accordance with 37 CFR 1.55.

Response to Amendment

2. Receipt is acknowledged of Applicants' Amendment and Response, filed March 11, 2005, which has been reviewed by the Examiner and entered of record in the file.

3. Accordingly, claims 10-13 have been cancelled, and new claims 14-17 have been added.

Information Disclosure Statement

4. Applicants' Information Disclosure Statement (IDS), filed February 3, 2005, is in compliance with 37 CFR 1.97 and has been considered by the Examiner. Please refer to Applicants' copy of the PTO-1449 form submitted herewith.

Election/Restrictions

5. Applicants' election **without traverse** of Invention I, claims 1-9, in the response filed March 11, 3005, is acknowledged.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-9 and 14-17 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 6,156,906, Hyoda et al (December 5, 2000) in light of EP 1035118 A1 (published Setember 13, 2000).

10. **Applicant cannot rely upon the foreign priority papers to overcome this rejection** because a translation of said papers been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

11. The applied U.S. reference has a common assignee and shares inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a

showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Applicants are claiming the following process:

A process for preparing 5,5'-bi-1H- tetrazolediammonium salts (BHT-2NH3) The 5,5'-bi-1H-tetrazolediammonium salts (BHT-2NH_3) are prepared by dissolving the oxaldiimidic acid dihydrazide (OAH) (obtained by the reaction of hydrated hydrazide with dicyan in an aqueous solution of a weakly acidic compound), drop wise adding an aqueous solution of sodium nitrite thereto to form an azide thereof and to effect the cyclization reaction by heating, adding an aqueous solution of sodium hydroxide to the reaction product to convert it into a 5,5'-bi-1H-tetrazoledisodium salt (BHT-2Na), reacting it with an aqueous solution of ammonium chloride, and recovering the formed ammonium salt as sparingly soluble crystals.

Determination of the scope and content of the prior art (MPEP §2141.01)

The U.S. 6,156,906 patent teaches the synthesis of a 5,5'-bi-1H-tetrazolediammonium salt (BHT-$2NH_3$) from hydrogen cyanide, sodium azide and hydrogen peroxide water in the presence of a catalytic amount of copper sulfate while adjusting the PH of the reaction solution to be 5 to 6.

The EP 1035118 document teaches the synthesis of a 5,5'-bi-lH-tetrazolediammonium salt from dicyan and an aqueous solution of sodium azide/ammonium chloride.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

A sodium azide must be used in each of the aforementioned processes.

Finding of prima facie obviousness---rational and motivation (MPEP §2142-2143)

The skilled artisan is deemed to be aware of all of the relevant teachings of the synthesis of a 5,5'-bi-lH-tetrazolediammonium salt (BHT-$2NH_3$) via cyclization of an oxaldiimidic acid dihydrazide (OAH). In fact, Applicants cite several processes ("Prior Art 1-7"), previously known in the field, in the specification. By Applicants' own admission, the present inventors have already proposed the synthesis of a 5,5'-bi-lH-tetrazolediammonium salt from dicyan and an aqueous solution of sodium azide/ammonium chloride (pages 3-4 of the specification).

The instant claimed process would have been suggested to one skilled in the art, particularly when the relevant reactants and intermediates (dicyan, oxalimidic acid dihydrazide, and 5,5'-bi-1H-tetrazole) are encompassed by the reactions defined in both references. One in possession of the references is not only is in possession of the combination of 5,5'-bi-lH-tetrazolediammonium salt preparation teachings but also the proven operability of the specific employment of claimed intermediates dicyan, OAH, and 5,5'-bi-1H-tetrazole, as well as certain reaction conditions, because of the suggested enhancement well-recognized in the art of record.

The compounds recited are of the same formulae as those discussed in both JP applications, and as such would be expected to have the same ability to dissolve in the presence of an acidic substance, have an aqueous solution added in slowly to form an azide, to add heat to effect the cyclization reaction, add in an aqueous solution of a salt to produce the same 5,5'-bi-1H-tetrazoledisodium salt, and reacting with an aqueous solution of ammonium chloride to obtain the same 5,5'-bi-lH-tetrazolediammonium salt. Regarding dependent claims 2-4 and 14-17, the Courts have decided per *In re Boesch*, 205 USPQ 215 (1980), that the optimization of variables, such as pH and solvent, in a known process is prima facie obvious. Furthermore, one skilled in the art would expect that varying the molar concentrations and temperatures would affect the yield, as well as the cost of carrying out the production method. See *In re Aller, et al.,* (CCPA 1955) 220 F2d 454, 105 USPQ 233, "The selection of reaction conditions is mere optimization by modification of routine experimentation and within one skilled in the art. Changes in temperature, concentrations, or other process conditions of an old process does not impart patentability unless the recited ranges are critical, i.e., they produce a new and unexpected result."

Therefore, absent a showing of unobvious and superior properties, the instant claimed process would have been suggested to one skilled in the art. Thus, a strong case of *prima facie* obviousness has been established.

Conclusion

12. In conclusion, claims 1-9 and 14-17 are pending. Claims 1-9 and 14-17 are rejected.

Telephone Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janet L. Coppins whose telephone number is 571.272.0680. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on 571.272.0699. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Janet L. Coppins
March 18, 2005

Joseph K. McKane
SPE, Art Unit 1626